

Natural Security

The following enhancements are provided with Natural Security Version 4.1:

- Environment Protection
 - Logon Procedure
 - Concurrent Modifications of a Security Profile
 - User Profiles
 - Library Profiles
 - Utility Profiles
 - Link Functions
 - Functional Security
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Environment Protection

With Version 4.1, Natural Security allows you to make users' access to a library environment-specific. A Natural *environment* is determined by the combination of the system files FNAT, FUSER, FSEC and FDIC. You define a security profile for each environment (that is, for each system-file combination) you wish to protect, and control users' access to it. You can also make a library accessible in some environments, but not in others.

Whenever a user logs on to a library in another environment, Natural Security will check whether:

- access to the library is allowed in that environment, and
- the user is authorized to access that environment.

Such a check is performed not only when a user explicitly logs on to a library, but also when the user invokes a function which implicitly accesses another library or processes the contents of another library.

Environment protection is activated with a new general option "Environment Protection". When environment protection is active, the following applies:

- Access to undefined environments is not possible.
- For every environment to be accessed, an environment security profile has to be defined.
- By default, access to a library is allowed in any defined environment, and access to a defined environment is allowed for all users.
- For individual libraries and users, you can disallow access to a defined environment.

See the section Environment Profiles in the Natural Security documentation for details on environment protection.

Logon Procedure

Unsuccessful Logon Attempts

With Version 4.1, the number of unsuccessful logon attempts is passed as a parameter to the logon-related user exit LOGONEX1. Thus, it is possible, for example, to display corresponding information to the user *before* the maximum number of logon attempts is reached. For details, see the source of LOGONEX1.

Password Expiration Message

With Version 4.1, you can issue a warning message "Your password will expire on *date*" (NAT1691) to users at the initial logon. The output of this message is activated with the new option "Message Before Password Expiration" in Administrator Services.

Concurrent Modifications of a Security Profile

A new general option "Concurrent Modifications Without Notification" allows you to determine how Natural Security is to react in a situation in which two administrators simultaneously modify the same security profile. Such a situation would occur as follows:

1. Administrator 1 invokes a security profile for modification.
2. Administrator 2 invokes the same security profile for modification.
3. Administrator 1 leaves the function after having made his/her modifications - the modifications are applied to the security profile. This means that, at this point, Administrator 2 is working on data which are "out of date", but is not aware of this fact.
4. Administrator 2 leaves the function after having made his/her modifications. Depending on the setting of the new general option "Concurrent Modifications Without Notification", there are two possible reactions by Natural Security:
 - The modifications made by Administrator 2 are applied - unknowingly overwriting the modifications made by Administrator 1.
 - Administrator 2 receives a window, informing him/her that the security profile in question was in the meantime modified by another administrator. He/she can then contact the other administrator to discuss the changes made, and can then decide to either cancel his/her own modifications or apply them, thus overwriting the modifications made by Administrator 1.

With Version 4.1, this option only applies to concurrent modifications made to *mailbox* security profiles. With one of the next releases, it will also apply to concurrent modifications of other Natural Security objects.

User Profiles

Time Differential and Time Zone

With earlier versions, the "Time Differential" option in user security profiles is only available for users of type **TERMINAL**.

With Version 4.1, it is also available for **GROUPS**. In addition, a new option "Time Zone" is provided, which can be used as an alternative to "Time Differential".

Library Profiles

Private Libraries

With earlier versions, access to a private library is restricted to the user for whom the private library is defined.

With Version 4.1, it is possible to remove this restriction and control access to private libraries in the same way as access to other "normal" libraries.

With the new general option "Private Libraries in Public Mode" you can determine whether the old (Version 3) or new (Version 4.1) private-library concept is to apply: The old concept is called "private mode", the new one is called "public mode".

If you choose "private mode", the handling of private libraries remains the same as with earlier versions.

If you choose "public mode", private libraries are handled like any other libraries:

- You can choose *not* to protect a private library, which means that it can be accessed by any user.
- You can make a private library protected, which means that it can only be accessed by the user whose ID is the same as the library ID, and by users who are linked to it.

See the section Private Library in the Natural Security documentation for details.

In private mode, private libraries continue to be maintained in the user maintenance section of Natural Security; in public mode, private libraries are maintained in the library maintenance section.

Linking Administrators to an Unprotected Library

With earlier versions, it is not possible to establish a link between a user and an unprotected library. The conditions of use of the library are determined by the library profile.

With Version 4.1, it is possible to establish a special link between a group and an unprotected library. This special link applies only to administrators contained in that group. Thus it is possible to define special conditions of use for administrators if this should be required for administration or maintenance tasks. For this purpose, the protection combination in the library profile has to be set to "People-protected=**L**, Terminal-protected=**N**".

Copying Libraries

The Copy Library provides a new option "with links". It allows you to copy not only the library profile, but also existing links associated with that library profile.

Copying, Renaming and Deleting Libraries

With earlier versions, when you copy, rename or delete a library security profile, this has no effect on the library itself and its contents stored on the FUSER system file.

With Version 4.1, the functions Copy Library, Rename Library and Delete Library provide a new option "with Natural objects" which allows you to also adjust the FUSER system file accordingly when a library profile is copied, renamed or deleted, which means that the contents of the library on the FUSER file are also copied to another library, moved to another library, or deleted.

Default Profiles

With earlier versions, default security profiles can only be defined for users. With Version 4.1, you can also define default profiles for libraries.

Statement and Command Restrictions

The use of the new statements and system commands provided with Natural Version 4.1 can also be controlled with Natural Security.

Utility Profiles

SYSBPM

The SYSBPM utility has been expanded to include the new functions "Write to Work File" and "Display Sorted Extract", and the new command DISPLAY CDIR; the expanded range of functions/commands is also reflected in the utility profiles for SYSBPM.

Link Functions

With earlier versions, when you invoke a function for the maintenance of links, you would get a list of *all* objects to which the selected object can be linked, that is, those for which links already exist and those for which not.

With Version 4.1, a new option "Select only defined links" is provided; it allows you to display either a list of all linkable objects or a list of only those objects which are already linked. This new option is available for all link maintenance functions; it appears in the window displayed when you invoke a link function.

Functional Security

If the status of a command processor is "modified" (that is, modified with SYSNCP), you have to update the functional security defined in Natural Security for the command processor. With earlier versions, you have to make this adjustment for each command processor individually. With Version 4.1, the new function "UC" of application-interface subprogram NSCLI allows you to simultaneously update the functional security of all "modified" command processors in a library.

Mailboxes in Batch Mode

With earlier versions, mailboxes are not output in batch mode.

With Version 4.1, you can set in Administrator Services a general option "Suppress mailboxes in batch mode" which determines whether mailboxes are output in batch mode or not.

Interface Subprograms

As of Version 4.1, "interface subprograms" are called "application interfaces".

With Version 4.1, the following new application interfaces are provided:

- NSC---P for password verification.
- NSC----P for password verification and password change.
- NSCXR14 to retrieve the user ID belonging to a specified user name.
- NSCXR15 to list all libraries of the current FNAT or FUSER system file which are not defined in Natural Security.
- NSCXR16 to translate the 2-character object-type code into the corresponding object type.

Direct Commands

As of Version 4.1, you can also issue a Natural Security direct command from outside of the Natural Security library SYSSEC. This allows you to perform a Natural Security function from anywhere in your Natural session without having to log on to the library SYSSEC.

To do so, you enter the direct command - prefixed by "SYSSEC" - in the Natural command line.

After the function invoked by the direct command has been performed, you will be returned to the Natural screen from which you have issued the command.